

## CLAIMS

What is claimed is:

1. A method for generating a ROM image comprising at least one data image build comprising:

5 processing an input file to identify at least one data image for a ROM image build and to generate a token file comprising at least one token for the data image; processing the data image with its associated token file to create the data image build; generating a data image build validating signature for the data image build; writing the data image build and the data image build validating signature to the ROM  
10 image; and generating a ROM image validating signature for the ROM image.

2. The method of claim 1 further comprising aligning the data image using a fill pattern and an alignment value prior to validating the data image.

3. The method of claim 1 further comprising dynamically assigning a starting  
15 address for the ROM image to the data image.

4. The method of claim 1 wherein a first data image is assigned a first memory location, the method further comprising dynamically reassigning the first memory location to a second data image and assigning a new memory location to the first data image.

5. The method of claim 1 wherein the step of validating the data image build  
20 with the data image validating signature comprises using at least one member of a group consisting of a checksum and a cyclic redundancy check to validate the data image build.

6. A method for generating a ROM image comprising at least one data image build comprising:

25 processing an input file to generate a token file and a temporary token file, the token file and the temporary token file each representing tokens for each data image identified in the input file; comparing the token file with the temporary token file and, if the same, generating a data image validating signature for each data image; and

writing each data image and each data image validating signature to the ROM image, and, thereafter, generating a separate ROM image validating signature for the ROM image.

5 7. The method of claim 6 further comprising generating the token file with a first image identifier and generating the temporary token file with a second image identifier.

8. The method of claim 6 further comprising aligning at least one data image using a fill pattern and an alignment value prior to validating the data image.

9. The method of claim 6 further comprising dynamically assigning a starting address in the ROM image to at least one data image.

10 10. The method of claim 6 wherein a first data image is assigned a first memory location in the ROM image, and wherein the method further comprises dynamically reassigning the first memory location to a second data image and assigning a new memory location in the ROM image to the first data image.

11. The method of claim 6 further comprising masking the validating signature.

15 12. The method of claim 6 further comprising looping through each data image to compute a size of each data image, to align each data image, if necessary, and to generate a validating signature for each data image.

20 13. The method of claim 6 further comprising looping through each data image to determine if each data image conflicts with at least one member of a group consisting of a starting address of another data image, a validating signature location of another data image, an address location of another data image, and a size location of another data image.

14. The method of claim 6 further comprising looping through each data image to dynamically assign a starting address in the ROM to those data images that do not have the starting address.

25 15. The method of claim 14 further comprising:  
iteratively checking memory locations for an available starting address;  
unassigning a first memory location originally assigned to a first data image  
reassigning the first memory location to a second data image; and

reassigning the first data image to a second memory location.

16. The method of claim 6 further comprising looping through each byte in the ROM image and, if a location of the byte in the ROM image being processed is the same as a parameter location of a selected data image, writing the parameter location to the byte in the ROM image being processed.

17. The method of claim 16 wherein the writing the parameter location step comprises writing at least one member of a group consisting of a validating signature location, a size location, a storage location at which a data image starting location is stored, and a starting location.

18. A method for generating a ROM image using inputs from an input file comprising:

identifying a plurality of data images to be placed in the ROM image based upon the inputs from the input file;

generating a data image validating signature for each data image with each associated input;

writing each data image and data image validating signature to a starting address of the ROM image, at least one starting address being dynamically allocated, and, thereafter, generating a ROM image validating signature for the ROM image; and

transmitting the data images with the data image validating signatures and the ROM image validating signature to a memory for storage as the ROM image.

19. The method of claim 18 further comprising aligning at least one of the data images using a fill pattern and an alignment value prior to generating the data image validating signature for the at least one data image.

20. The method of claim 18 wherein a first data image has a first memory location in the ROM image and the method further comprises dynamically reassigning the first memory location to a second data image and assigning a new memory location in the ROM image to the first data image.

21. The method of claim 18 further comprising transferring the ROM image from a programming system to at least one member of a group consisting of a ROM, a PROM, an EPROM, and an EEPROM.

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